

## CLAIMS:

1. A frequency divider comprising,
  - a first latch (10) comprising a clock input for receiving a clock signal, and
  - a second latch (20) comprising a latch circuit configured as a low-pass filter, the second latch (20) being crossed-coupled to the first latch.
- 5 2. A frequency divider as claimed in claim 1, wherein the second latch comprises
  - a differential pair of transistors (M1, M3; M2, M4) including
  - a first pair of transistors comprising a first transistor (M1) coupled to second transistor (M3),
  - 10 - second pair of transistor comprising third transistor (M2) coupled to a fourth transistor (M4),
  - each transistor having a drain, a source and a gate,
  - a drain of the first transistor (M1) and a drain of the third transistor (M2) being coupled to a source of the second transistor (M3) and to a source of the fourth transistor
  - 15 (M4), respectively
  - gates of the second transistor (M3) and fourth transistor (M4) receiving a signal generated by the first latch (10),
  - gates of the first transistor (M1) and the third transistor (M2) being coupled to a control signal (C1, C2), for determining a low-pass characteristic of the second latch.
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3. A frequency divider as claimed in claim 1, wherein the second latch comprises a differential pair of transistors (M1', M2') including
  - a fifth transistor (M1') and a sixth transistor (M2'),
  - each transistor having a drain, a source and a gate,
  - 25 - a drain of the fifth transistor (M1') and the drain of the sixth transistor (M2') being coupled to supply voltage (Vs) via respective resistors,
  - a source of the fifth transistor (M1') and a source of the sixth transistor (M2') being coupled to a common potential,

- gates of the fifth transistor (M1') and sixth transistor (M2') receiving a signal generated by the first latch (10).
4. A frequency divider as claimed in claim 2, wherein the control signal (C1, C2)  
5 is a DC signal.
5. A frequency divider as claimed in claim 2, wherein the control signal (C1, C2) is a complementary clock signal to the clock signal supplied to the first latch (10).
- 10 6. A frequency divider as claimed in claim 5, wherein the first latch (10) is substantially identical to the second latch (20).
7. A frequency divider as claimed in any of the preceding claims 2-6, wherein each latch comprises a negative resistance coupled between the drains of said second  
15 transistor (M3) and said fourth transistor (M4), and between the drain of the fifth transistor (M1') and drain of the sixth transistor (M6'), respectively.